



NATIONAL FOOTPRINT ACCOUNTS, 2012 EDITION

A GLOBAL FOOTPRINT NETWORK REPORT

The National Footprint Accounts, 2012 edition

WORKING PAPER

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THE NATIONAL FOOTPRINT ACCOUNTS, 2012 EDITION

In the early 21st century, natural resource constraints are becoming apparent and causing structural changes in our economies. As domestic resource demand is starting to outgrow the domestic availability of resources for many countries around the world, these countries turn to international trade for accessing the resource inputs needed to maintain their level of economic and social well-being. However, in an era of global resource shortage, dependency on trade implies certain geopolitical and competitiveness risks. Economic success can no longer be secured without carefully managing and tracking the demand on and availability of natural capital. Assessments tools help visualize the scale of change we are witnessing, provide a platform for weighing policy options, and thus secure a nation's wellbeing.

Ecological Footprint analysis is such a tool and measures human appropriation of ecosystem products and services in terms of the amount of bioproductive land and sea area needed to supply these products and services ([Global Footprint Network 2012, method paper](#)). This metric assesses human demand on, and availability of, regenerative and waste absorptive capacity within the biosphere that are needed to track minimum sustainability conditions. The area of land and sea available to serve a particular use is called biological capacity (biocapacity), and represents the biosphere's ability to meet human demand for material consumption and waste disposal. Global Footprint Network's National Footprint Accounts track the resources, expressed in units of average biological productivity (or global hectares, gha) of crop and fish for human consumption, built up land, timber, grass and feed crop for livestock, and waste absorption of CO₂ emissions.

National Accounts Update for the 2012 Edition

The annually updated and improved National Footprints accounts as developed by Global Footprint Network undergo continuous improvement under the advice of the National Accounts Review Committee. The quality, reliability and validity of the National Footprint Accounts are dependent upon the level of accuracy and availability of a wide range of datasets, many of which have incomplete coverage, and most of which do not specify confidence limits. Considerable care is taken to minimize any data inaccuracies or calculation errors that might distort the National Footprint Accounts, including inviting national governments to collaboratively review the assessment of their country for accuracy. Improvements from one edition to the next may result in slight discrepancies between the numbers published in earlier versions and the current one (2012 Edition). The most significant changes for this version are the following:

1. Changes in the source data

The calculation of the Ecological Footprint and biocapacity for each land type and each country is based on the collection and analysis of a large body of data, sourced primarily from the United Nations (for more information on data sources, see the Methodology paper). When there are significant changes in the data

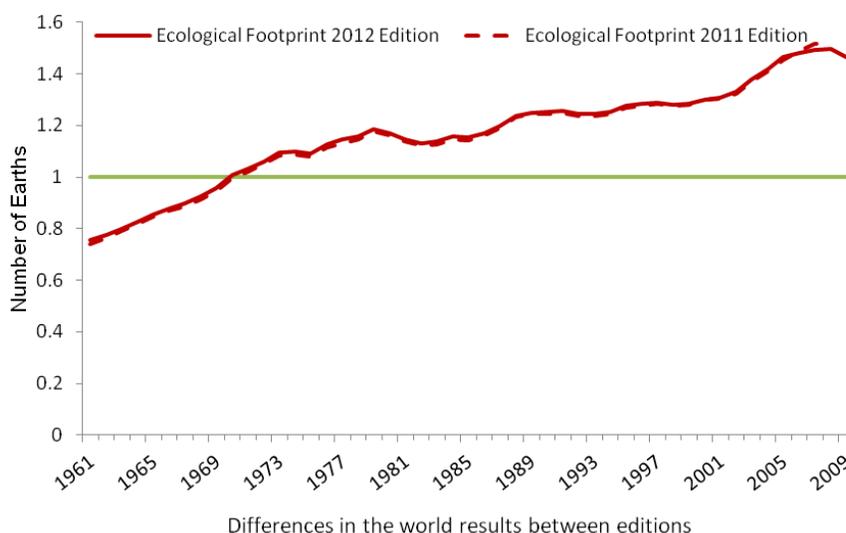
over time, those changes will be reflected in the new results. Raw data for the entire time series tracked by each Edition of the National Footprint Accounts is collected anew each year, so adjustments in historical figures will affect results for previous years. Source data change reflects the real change in numbers between 2008 and 2009. Source data revision is when the data provider altered the numbers in an update for the same year. Occasionally there may be irregularities in data that are published by an agency, and while there is some limited scope to make corrections in the National Footprint Accounts, data irregularities is an issue that should be addressed with the data collecting organization. As well as data updates and small irregularities, there are also annual differences in data due to changes in consumption patterns across nations. The Intertemporal Yield Factor which was introduced in the NFA 2011 Edition changes base years in each NFA Edition which also causes a change in the way the results appear between NFA Editions.

2. Calculation Improvements and Corrections

The National Footprint Accounts calculation is continually improving as Global Footprint Network seeks to increase the resolution and detail of the data that is included, updates and improves the way the calculations are done, and makes corrections when necessary from previous Editions of the National Footprint Accounts.

Template improvements

The Excel template and the data querying program used for the National Footprint Accounts calculations are also a site of amendment in the annual process. Changes in these elements might affect results because of increased data detail being incorporated, improved allocation of some elements of a Footprint, corrections, or updates in the calculations themselves.

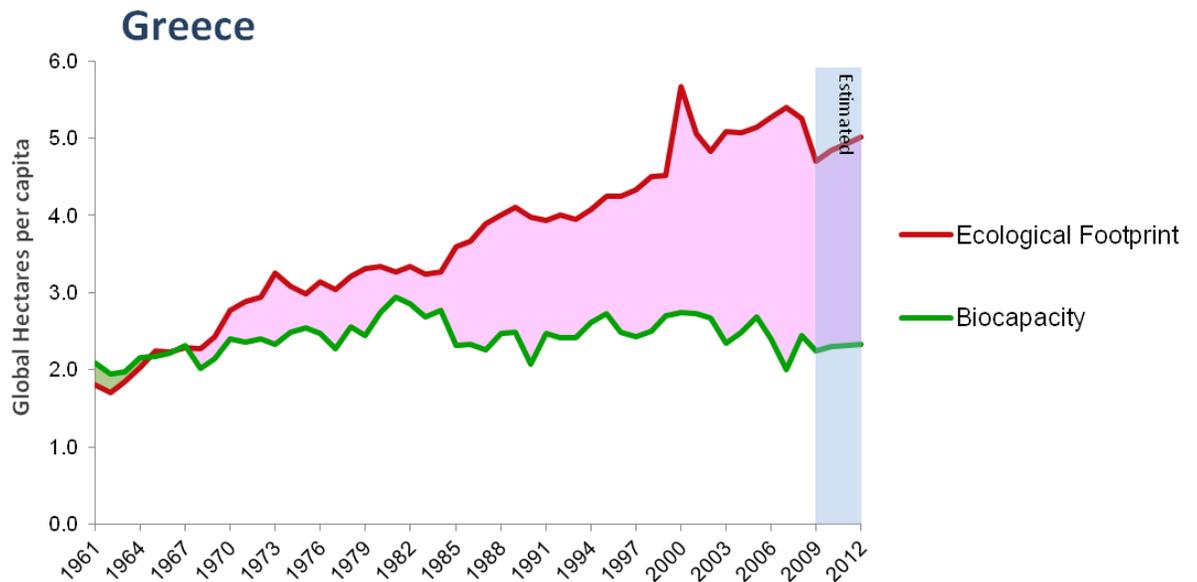
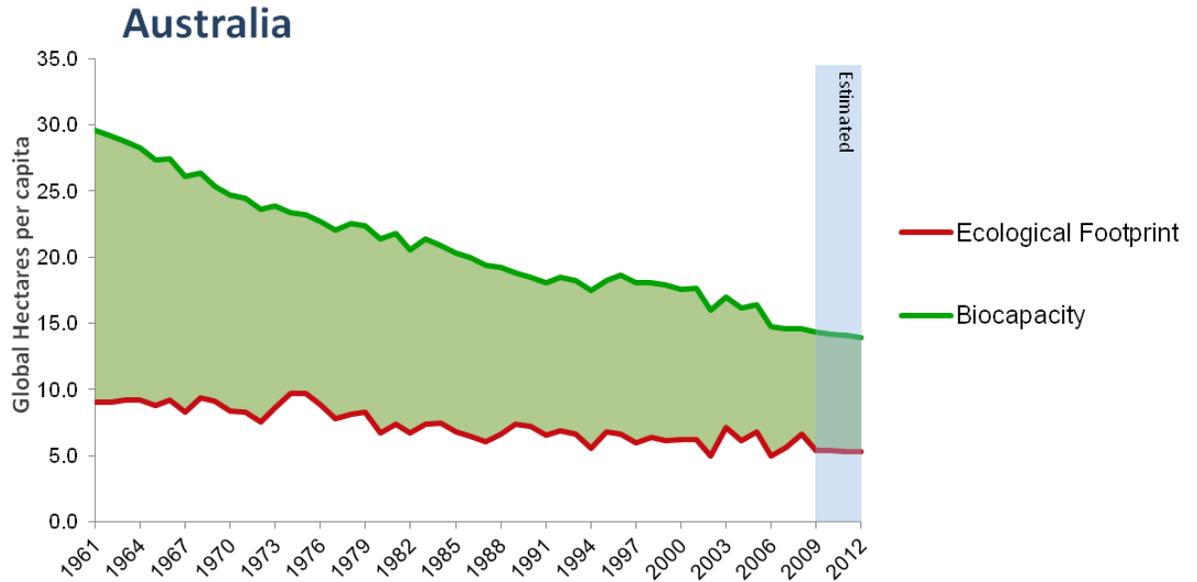


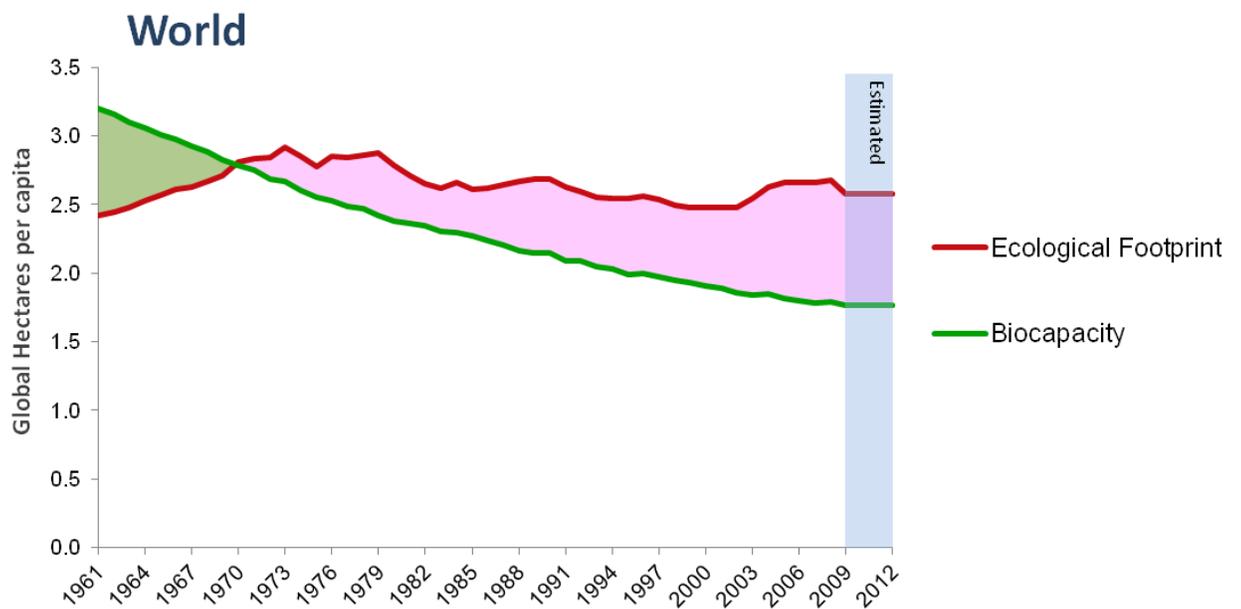
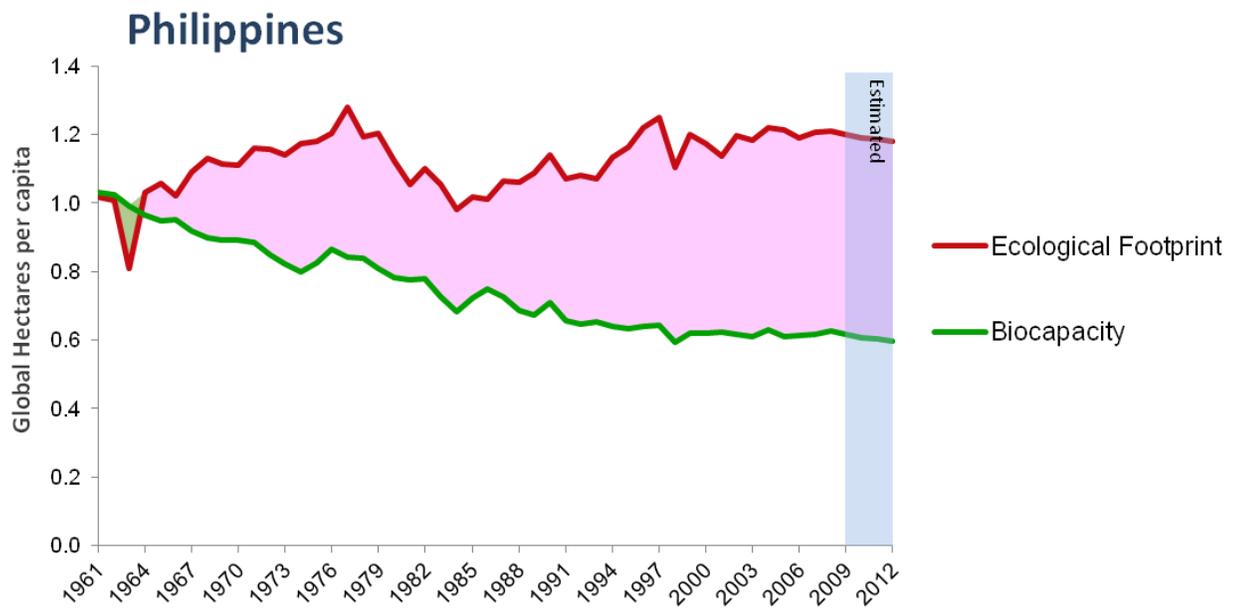
3. Methodological Changes

Nowcasting methodology implemented

While the time-series results calculated from observed data are limited to three years prior to the Edition year based on data availability (i.e. 2009), a new methodology for estimating results for all countries up to the Edition year (2012) has been incorporated into the National Footprint Accounts.

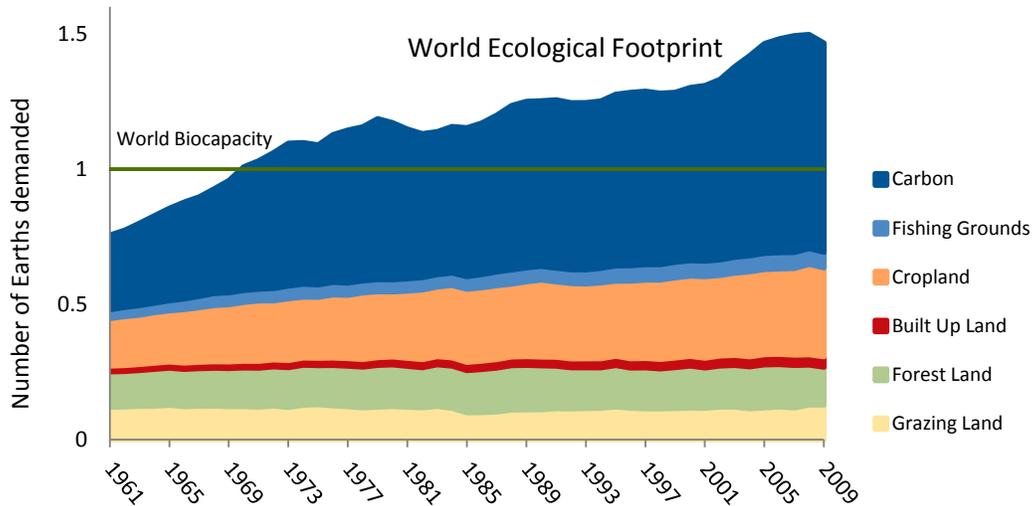
Nowcast results for three sample countries and the world are shown below:





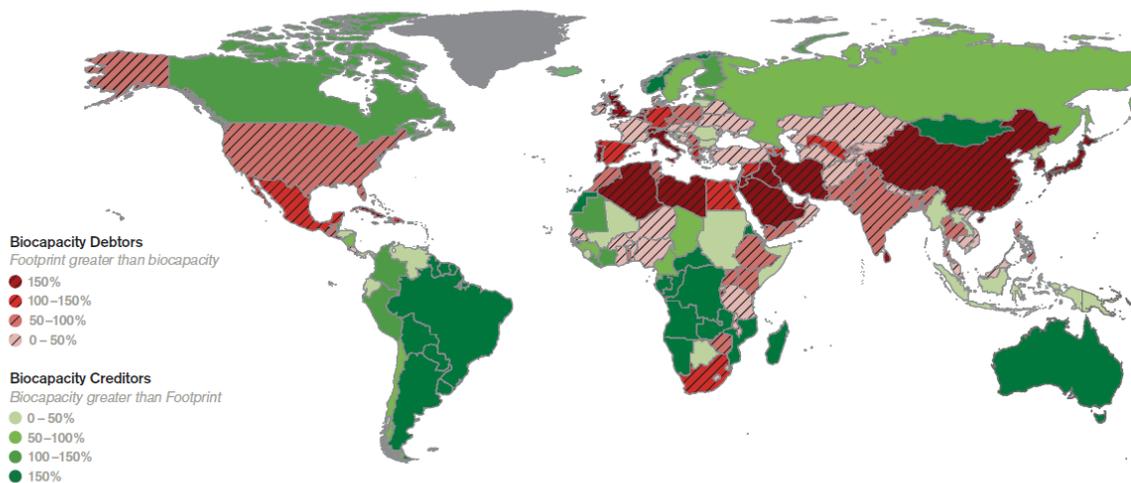
KEY FINDINGS OF THE NATIONAL FOOTPRINT ACCOUNTS, 2012 EDITION

According to the most recent National Accounts for the year 2009, the total Earth's biocapacity is estimated at 12 billion gha (or 1.8 gha per person) but humanity's Ecological Footprint has reached 17.6 billion gha (or 2.6 gha per person). Correspondingly, the number of planets demanded by all humans has increased to 1.47 planets, which represents an increment of 2.4 times the demand for nature's renewable resources since 1961.



The Ecological Wealth of Nations

As global ecological overshoot grows, how will countries continue to meet the needs of their people and their economies? Maintaining natural wealth and reducing ecological demand will help countries improve economic resilience and human well-being.



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(2009 data)

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Results for 2009 from the National Footprint Accounts 2012

Summary of Resources for the National Footprint Accounts, 2012 Edition:

Country Trend Graphs, 2012 Edition (tracking per-person resource demand (Ecological Footprint) and resource supply (Biocapacity) since 1961 can be seen at:

http://www.footprintnetwork.org/en/index.php/GFN/page/footprint_for_nations/

Country Data:

Detailed data for the years 1961-2009 and estimated results for 2010-2012 from the NFA 2012 Edition can be requested at: http://www.footprintnetwork.org/en/index.php/GFN/page/footprint_data_and_results/.

Also available without a fee through the same webpage are data tables showing detailed results by land type for each country for 2008 from the NFA 2011 Edition. For each country, information on population, income group, and Ecological Footprint and biocapacity expressed in number of gha per capita are indicated, with a final column indicating if a particular country (or region) incurs a biocapacity deficit or has a biocapacity reserve. The same file includes graphs showing the full time-series results for nations and for the world from the NFA 2012 Edition.

Calculation Methodology Paper, 2011 edition:

http://www.footprintnetwork.org/images/article_uploads/Global_Footprint_Network_Method_paper_NFA_2011_-_Draft.pdf

Additional Resources:

The **Guidebook to the 2008 National Footprint Accounts** describes the implementation of the Ecological Footprint methodology as presented in the 2008 edition for the National Footprint Accounts. It provides an in depth description of each part of the 2008 NFA workbook, along with detailed descriptions of calculations and data sources. (An updated version will be release with the NFA 2013 Edition.)

<http://www.footprintnetwork.org/download.php?id=507>

The **Ecological Footprint Atlas 2010** explains the purpose behind Ecological Footprint Analysis, the research question it addresses, basic concepts and science underlying the Accounts, and the also expands on the method used for calculating the results. It describes ways Ecological Footprint Analysis is currently being applied in a variety of domains. For the technical reader, the Atlas includes more detailed notes about calculation of the results, explains recent advances to enhance the consistency, reliability and resolution of the National Footprint Accounts, and reviews the evolution of the National Footprint Accounts methodology.

http://www.footprintnetwork.org/images/uploads/Ecological_Footprint_Atlas_2010.pdf